

at the instigation of the learned Cardinal, Gulielmus Filiastus. Claudius' map, which is brightly coloured, and well supplied with the names and geographical determinations of places, ends at 74° N. lat., and begins at 55° N. lat., in which meridian a line is drawn through England, Holsatia (Holstein), and Pomerania, thus taking in the whole of the Baltic, whose islands and shores from the then Danish province of Halland, in Scandinavia, to the Gulf of Finland, are laid down with a fair amount of accuracy. In the far west we see Grönlandia, while on the shores of the Arctic Sea, named here "tenebrosus mare," we have at the very north of Scandinavia "Engrönuelandi," which would appear to have been an old designation of part of Finmark, and possibly the region from which Grönland derived its name.

In all respects the chart drawn by C. Clavus in 1427 is so far superior to the Donis map, printed at Ulm in 1482, which had formed the basis of Bordone's, and many other later maps, that, as Nordenskjöld points out, it must have been based on independent sources derived from the actual experience of seafaring observers. As, moreover, the Zeno map corresponds far more closely with the Clavus than with the Donis chart, with whose errors of position and distortions of outline it has little or nothing in common, there is not the slightest ground for asserting that the Benedictine monk, Nicolaus Donis, whose atlas is a mere copy of drawings to be found in the mediæval manuscripts of Ptolemy, was the authority from whom the younger Zeno derived his acquaintance with the far north, in which he included East Greenland and North-West America. We have no space to enter more fully into the interesting details with which Baron von Nordenskjöld supports his argument in favour of the authenticity of the Zeno narrative. But in conclusion we must draw attention to the success and ingenuity with which he has shown, that the often-sought-for and much-talked-of manuscript map of the north, which Admiral Zahrtmann saw in the University Library at Copenhagen, and declared to be the undoubted original from which Zeno's map had been derived, was simply a copy of Donis's chart. This fact he has so conclusively established, that henceforth Zahrtmann's charge against Zeno the younger must be considered to have lost one of its strongest supports; while future commentators on the Zeno voyages need no longer scour the libraries of Northern Europe in quest of a phantom map, whose disappearance soon after it had been seen by Zahrtmann has largely contributed to the tardy solution of the Zeno mystery.

NOTES

THE following awards will be made at the anniversary meeting of the Royal Geographical Society on the 28th inst. :—Founder's Medal to Sir Joseph Dalton Hooker, F.R.S., for his eminent services to scientific geography, extending through a long series of years and over a large portion of the globe, while engaged in voyages in the Antarctic and Australian Seas, and journeys in India and the Himalaya, in Morocco, and in the United States of America; and more especially for his long-continued researches in botanical geography, which have thrown light on the form of the land in prehistoric times, and on the causes of the present distribution of the various forms of vegetable life on the earth. Patron's Medal to E. Colborne Baber, Chinese Secretary of Legation, Peking, in recognition of the great value of his scientific work, chiefly geographical, during many exploratory journeys in the interior of China; and for his reports of these journeys, drawn up with admirable skill, accuracy, and completeness, which he presented to the Society, and which have been published, together with route maps engraved from his own finished drawings, in the first part of the "Supplementary Papers." The Murchison Grant for 1883 to Wm. Deans Cowan for his extensive surveys in the Tanala, Betsileo, and Bara provinces of Central

Madagascar, an account of which was read by him to the Society in June, 1882, and published in the September number of the *Proceedings* of the same year; also as an encouragement to him in the new journey of exploration he is about to undertake in Western Madagascar. The Back Grant for 1883 to the Abbé Petitot for his geographical and ethnographical researches in the region of the great lakes of the Arctic basin, between Great Slave Lake and the Polar Sea, and his map of the basin of the Mackenzie. The Cuthbert Peek Grant for 1883 to F. C. Selous in acknowledgment of the value of his geographical researches in South Central Africa, including a journey in 1877 through the Manica country, north of the Zambesi, an examination of the hydrographical system of the Chobe, and two journeys by previously untrodden routes through Mashonaland, carefully prepared maps of which he communicated to the Society; also as an encouragement to him in the further researches in geography and natural history he has undertaken in the same region. The following will be elected as honorary corresponding members: Duca di Sermoneta (Prince Teano), president of the Italian Geographical Society, and of the International Geographical Congress at Venice, 1881; Dr. Schweinfurth, the eminent African traveller, now resident at Cairo; Edwin R. Heath, M.D., the explorer of the Beni River, South America, now residing at Wyandotte, Kansas, United States.

THE annual *soirée* of the Royal Society was held on the 25th ult. in the absence of the President, on account of indisposition. Among the recent scientific work illustrated was a photograph of the nebula in Orion, exhibited by Mr. A. A. Common, which is certainly one of the most interesting astronomical photographs which has ever been taken. We may also mention an interesting exhibit by Mr. W. Galloway, exemplifying the effects of coal-dust in colliery explosions, and "The Firedamp Cap," a phenomenon seen in mines. The only other exhibit of real general interest were some garlands from the tombs of Rameses II. and other kings, whose mummies were recently found at Thebes. Many of our readers have doubtless seen them in Egypt at the famous Boolak Museum, but those who have not done so must thank Dr. Schweinfurth for sending them over to Sir Joseph Hooker, and Sir Joseph Hooker for exhibiting them. These garlands are chiefly formed of leaves of *Mimusops Schimperii*, and petals of *Nymphaea cerulea* and Lotus sewn together with fibres of date-leaf; others of the leaves of *Salix safrax*, with pods and flowers of *Acacia Nilotica*, *Sesbania Egyptiaca*, and *Carthamus tinctorius*, and petals of *Alcea ficifolia*.

DR. HANS GADOW has been appointed to the Strickland Curatorship in the University of Cambridge, vacated by the resignation of Mr. Salvin, F.R.S. Dr. Gadow began his biological studies under the late Prof. Peters in the University of Berlin, but graduated at Jena, whence he proceeded to Heidelberg, and worked there under Prof. Gegenbaur. Coming to England about two years ago, he was engaged, at the suggestion of Dr. Günther, by the Trustees of the British Museum to determine the specimens to be included in volumes viii. and ix. of their collection. The product of his labours in this direction is still in the press, but his contributions to the *Journal für Ornithologie*, the *Proceedings of the Zoological Society*, and other scientific journals, show him to be one of the most promising of the rising generation of ornithologists. In October last Dr. Gadow was appointed to deliver a course of lectures on the Morphology of the Vertebrata in the University of Cambridge, which has given much satisfaction to all concerned.

WE regret to announce the death of Dr. Wilhelm Peters, Professor of Zoology at Berlin University, and Director of the Zoological Museum of that city. He died on April 20, aged sixty-seven. The death is also announced of Dr. Gustav Radicke, Professor of Mathematics at Bonn University. He died at Bonn on April 18, in his seventy-third year.

THE President of the Parkes Museum, H.R.H. the Duke of Albany, has fixed Saturday, May 26, for the opening of the Museum in its new premises, 74A, Margaret Street, W. The central position of the new premises will make the Museum more useful than it has hitherto been to professional men, owners of property, employers of labour, artisans and others, both men and women; and in order that the benefits of the Museum may be extended to all classes, it will be open daily between the hours of ten and seven, during which hours admission will be free, from five to seven and from two to nine on Mondays and Saturdays; while free admission to the library and reading-room may always be had on the recommendation of a member.

THE honour of a baronetcy has been conferred upon Mr. Spencer Wells.

MESSRS. MACMILLAN AND CO. are about to publish "Elementary Lessons in Practical Physics," by Prof. Balfour Stewart and Mr. Gee, Demonstrator in the Physical Laboratory at Owens College, Manchester.

THE *Indian Pioneer* states that a member of the Alpine Club, attended by an experienced Swiss guide, has left Darjeeling, for the purpose of attempting the highest possible ascent of the Kinchinjung. The task will be a hard one, especially as the difficulties to be overcome are in many respects altogether different from those encountered in Switzerland.

A TORNADO of wide range and great force swept over the states of Mississippi, Georgia, and South Carolina on Sunday week, killing large numbers of people and injuring many more, and destroying hundreds of buildings. The first place struck is stated to have been Georgetown, Mississippi. The tornado is said to have cut a path 1000 yards wide through a swamp in Barnwell county, South Carolina, felling the timber as neatly as if it had been cut to form a highway.

THE diary of the Marquis Tseng, Chinese Minister in London, to which attention has been already drawn in the *Pall Mall Gazette*, contains one or two passages which will be of especial interest to readers of NATURE. His Excellency is in favour of the acquisition of a knowledge of foreign languages by Chinese youth; he thinks that, "if young people with good vocal organs were made to apply themselves, during the intervals of school duties, to the study of a foreign language, they could gain a fluent knowledge of it in four or five years." The sudden withdrawal of the Chinese educational mission in the United States a year ago was the subject of much astonishment abroad, but the Envoy's views on the subject before the mission was despatched in the first instance, will explain the mystery. "The result of sending boys who had not studied their own classics to devote themselves exclusively to the acquisition of Western knowledge in a country like America, where there was no distinction of classes, would be simply to contribute so many citizens to the United States, and to furnish the foreign firms at the Treaty Ports with compradores and interpreters." The advantages derived by the youths in America were far less than the successes of the pupils at the Foreign College in Peking and the schools at Shanghai and Foochow. A Mr. Chang, whom the envoy met in Shanghai, and whose opinion he seems to have valued highly, suggested the establishment at Government expense of a Chinese school for foreigners, where a knowledge of the Chinese language and literature might be attained. The students, he hoped, would translate foreign books for diffusion in China. In addition translations of the educational curriculum used in schools and colleges in the West should be made, and schools where young Chinese might be trained "upon the system practised in olden times, with a slight admixture of foreign methods," should be established. "Education," Mr. Chang says, "is the basis of State administration, and its success is essential to the establishment of proper government." Marquis

Tseng does not precisely claim that China in times past had steamers and steam engines, although his language at first sight seems capable of such interpretation; he says, however, that China had no lack of mechanical appliances until her material prosperity declined, when her people fell into idle and thriftless habits, and the mechanical art was lost in transmission. He prophesies that the day will arrive here as it has in China, "when Western workcraft, now so deft, will grow inept, and Western ingenuity give way to homelike simplicity. The fact is," he concludes, "the earth's productions being limited, are not sufficient to provide for the manifold wants of its countless people, and deterioration is one of nature's laws." His Excellency is clearly a man of remarkable shrewdness and capacity; let us hope that to his other gifts he does not add that of prophecy.

THE *North China Herald* reports that Dr. Bretschneider, the physician to the Russian Mission in Peking, and one of the ablest and most industrious students of China, is about to leave that country for ever. Dr. Bretschneider is, we believe, chiefly a botanist, and a few months ago we noticed an elaborate paper of his on Chinese botanical knowledge; but he has laboured in many other fields of research. One of his best known works is a pamphlet on the Early Chinese Travellers in Central Asia, which was published a few years ago. The same journal states that this gentleman, although he has already published much, is reserving his *magnum opus* until his return to Europe. The great advantage of sinologues working in China and Chinese literature on the subjects of which they are otherwise masters is obvious. Thus a botanist, with a knowledge of Chinese, will clearly work to greater advantage on Chinese knowledge of botany, the flora of China, and similar subjects, than he will in any other subject, or than a non-botanical Chinese scholar can do. Dr. Bretschneider seems during his long residence in China to have recognised this, and certainly in his hands the already great scientific reputation of the Russians in Peking has not suffered.

THE work of education in Hong Kong would appear to be conducted under some curious difficulties. Dr. Eitel, the Inspector of Schools, in his last report mentions that he noticed several cases in which Chinese girls, living at a great distance from school, and having to traverse on their way to and fro the most crowded portion of the town, were dressed like boys, and attended the girls' schools all through the year in boys' dresses. This was owing to the prevalence of the practice of kidnapping girls, and the curious change of dress was adopted to deceive the kidnappers.

WE notice in M. Bunge's review of "European Literature in Chemical Technology," published in the *Journal of the Russian Chemical Society*, the appearance of an elaborate Russian work, by M. Radivanovsky, on "Gunpowder, Pyroxyline, Dynamite, and other Explosives," in two large volumes, one of which is devoted to theory, and the other to practice. M. Bunge considers it as decidedly the best work on the subject in Europe for its completeness and lucidity of exposition.

M. YAGU, of the Russian Physical Society, while making experiments with a new parachute-hydromotor on the Neva, came to the unexpected result that the velocity of the current in this river is only half the rate in winter that it is during the summer. It is supposed that this retardation depends upon accumulations of ice at the outflow of the Neva from Lake Ladoga, which accumulations diminish the section of the channel.

M. POMPEIU has made, before an immense crowd, two successful ascents with an elongated balloon (measurement 1300 cubic metres, elongation 1 to $3\frac{1}{2}$). On both occasions the

descent was very well executed, although the balloon was partly empty, having ascended to an altitude of 1200 metres. Four persons were on board. In the second ascent M. Pompeieu obtained a movement of his aerial craft in the required direction by only moving his rudder. This circumstance is accounted for by the balloon progressing with a less velocity than the wind, owing to its elongation.

THE French Military Engineers have suggested a scheme for extending the area of Paris by suppressing the old fortifications, which cover 2000 acres, and could be sold for building-ground. The proposal is simply to connect the several forts built by Louis Philippe by a trench sufficient to prevent a sudden attack. This new line of defence would utilise the Seine and Marne as a defensive work. The total area of Paris would then be 100 square miles instead of 30, as at present.

THE Anniversary Meeting of the Zoological Society was held on April 30, Prof. W. H. Flower, LL.D., F.R.S., President, in the chair. The Report of the Council on the proceedings of the Society during the year 1882 was read by Mr. P. L. Sclater, F.R.S., the Secretary of the Society. The Report stated that the number of Fellows on December 31, 1882, was 3213, the same as at the corresponding period in 1881. The total receipts for 1882 had amounted to 34,270*l.*, against 25,810*l.* for 1881. The ordinary expenditure for 1882 had been 26,109*l.*, against 24,651*l.* for 1881, and the extraordinary expenditure 3266*l.*, against 1036*l.* for the preceding year; besides which the sum of 1000*l.* had been devoted to the repayment of part of the mortgage debt due on the Society's freehold premises, which had been thus reduced to 5000*l.* The balance carried forward for the benefit of the present year was 3891*l.* The most important work undertaken in the Gardens during the past year had been the new Reptile House, a site for which, in the south-eastern corner of the Gardens, had been selected some time since. The building was stated to be 120 feet long, by 60 feet in width. Fixed cages for the pythons and larger reptiles would occupy three sides, while the south front was reserved for small movable cases. A large oval tank for crocodiles and two smaller ones for water tortoises would be placed in the centre of the building, which it was hoped would be ready for opening in July or August next. The visitors to the Society's Gardens in 1882 had been 849,776, against 648,694 in 1881, the number having been unusually augmented by the excitement caused at the removal of the large African elephant, "Jumbo," in the beginning of the year. The number of animals in the Society's Collection on December 31 last was 2355, of which 750 were mammals, 1364 birds, and 241 reptiles. The usual ballot having been taken, it was announced that Prof. Bush, F.R.S., Major-General Henry Clerk, R.A., F.R.S., the Hon. J. S. Gathorne-Hardy, Mr. Arthur Grote, and Lord Walsingham, had been elected into the Council in place of the retiring Members, and that Prof. W. H. Flower, LL.D., F.R.S., had been reelected President, Mr. Charles Drummond, Treasurer, and Mr. Philip Lutley Sclater, M.A., Ph.D., F.R.S., Secretary to the Society for the ensuing year. The meeting terminated with the usual vote of thanks to the Chairman, in returning thanks for which Prof. Flower called attention to the loss the Society had suffered by the death of two distinguished Foreign Members (Prof. Troschel and Dr. W. Peters), and more recently by the death of the accomplished Prosector, Mr. W. A. Forbes, at the early age of twenty-eight years.

THE Sunday Society opened the Suffolk Street Galleries on Sunday for four hours to persons who had previously written for tickets. The number of visitors was 1695 (from two to four there were 495, and from six to eight the attendance was 1200). During the evening a meeting was held in the large gallery, Mr. Mark H. Judge in the chair. On the motion of Mr. Hastings

Sands, seconded by Mr. Robson J. Scott, a petition in support of Lord Dunraven's resolution was unanimously passed. The annual meeting of the Society will be held on Saturday at the Princes' Hall, Piccadilly.

THE Charing Cross and Waterloo Electric Railway Bill has been withdrawn for the present session.

ON April 8, at 9 p.m., an earthquake was observed in Finland, where this phenomenon is extremely rare. At Nykarleby the shocks were rather severe, and were accompanied by a subterranean rattling and rumbling noise; their direction was from S.W. to N.E. At Wasa the ground oscillated to an alarming extent. At Ytterjeppo even the houses were shaken to their foundations and their downfall was feared; the same intensity in the shocks was observed on the "domaine" of Back.

MR. R. MELDOLA writes to say that an error has inadvertently crept into his address, referred to in last week's NATURE (p. 615). The remark quoted was not made with reference to Mr. Wallace's paper, published by the Linnean Society in August, 1858, but with reference to his first paper, "On the Law which has Regulated the Introduction of New Species," published in the *Annals and Magazine of Natural History* for September, 1855. This mistake, however, does not affect the general tenor of our paragraph.

A PAPER issued by the Isthmus of Corinth Canal Company states that the explosions of the mines will be made with an electric machine moved by hand and Leyden jar. The total weight of dynamite required will amount to 2,500,000 pounds. The work is expected to last four years, and to cost about 1,100,000*l.* The canal will be 6300 metres in length, 22 in breadth, and 8 in depth.

THE Rev. James Sibree has issued in a separate form his instructive paper on Malagasy Place-Names, which originally appeared in the *Journal* of the Royal Asiatic Society.

DR. RUDOLF FALB, the well-known author of various works on earthquakes and volcanoes, has recently written an interesting little book entitled "Wetterbriefe." It contains reflections on meteorology, with special reference to the inundations of 1882, which the author considers to be periodical. The book is published by Hartleben of Vienna.

DR. JOS. CHAVANNE's edition of Adrian Balbi's "Allgemeine Erdbe-schreibung," to which we have already referred some time ago, and which is in course of publication by Hartleben (Vienna), has now reached the twenty-fourth part. It will be completed in forty-five parts.

THE illustration of the "Lion at Rest," lent to us by our Paris contemporary, *La Nature*, which appeared in our issue of April 19, was, we are now informed, engraved from a photograph by Mr. Thomas James Dixon, the copyright of which belongs to Mr. Henry Dixon, of 112, Albany Street, Regent's Park.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus*) from India, presented by Mr. H. G. Wainwright; a Leopard (*Felis pardus* ♂) from East Africa, presented by Capt. Percy Luxmore, R.N., C.B.; a Brown Bear (*Ursus arctos* ♂) from Kamschatka, presented by Mr. C. T. Kettlewell; a Ring-tailed Coati (*Nasua rufa*) from South America, presented by Mr. Dudley Sheridan; a Common Badger (*Meles taxus*), British, presented by Mr. J. Snowden Henry, F.Z.S.; a Woodcock (*Scolopax rusticola*), British, presented by Capt. Nicholls; two Edible Snails (*Helix pomatia*) from Cheltenham, presented by Lieut.-Col. C. S. Sturt, C.M.Z.S.; an Ashy-black Macaque (*Macacus ocreatus*) from the East Indies, a Senegal Parrot (*Pseopcephalus senegalensis*) from West Africa, deposited; a Great Anteater (*Myrmecophaga jubata*) from Brazil, a Common Sparrow Hawk (*Accipiter nisus*), British, purchased.